INSTITUT TEKNOLOGI SEPULUH NOPEMBER
FACULTY OF SCIENCE AND DATA ANALYTICS
DEPARTMENT OF STATISTICS
STATISTICS UNDERGRADUATE PROGRAM

Course	Course Name	:	**Database**
	Course Code	:	SS234205
	Credit	:	3 SKS
	Semester	:	II

COURSE DESCRIPTION

The database course is a computing subject that discusses data management with database systems. After taking this course, students will have the competence to be able to understand concepts in databases, how to process data from one table and multi-tables by using simple commands or using database software programming languages. In addition, students will also have the competence to apply database systems to solve statistical problems. In this course, students play an active role in (i) being able to form relational models in databases and (ii) being able to operate database software for data management. At the end of the lecture, students can use data software to solve statistical problems.

PROGRAM LEARNING OUTCOME

PLO-6   Able to design, collect, and perform data management with the right methodology
PLO-7   Able to use modern computing devices to solve statistical problems
PLO-8   Able to use computational techniques to solve statistical problems

COURSE LEARNING OUTCOME

CLO.1   Able to understand general concepts, relational model concepts, and relational concepts of entities in database systems
CLO.2   Able to understand and execute commands and the Structure Query Language (SQL) programming language
CLO.3   Able to understand and execute commands in SQL programming language
CLO.4   Able to manage tables using the SQL programming language
CLO.5   Able to use database system to solve statistical problems

MAIN SUBJECT

1. Basic concept of database
2. Introduction to relational model: database structure and relational model
3. Concept of ER
4. Structure of SQL programming language
5. DML (Data Manipulation Language)
6. DDL (Data Definition Language)
7. Normalization table
8. Multi table management

9. Database system

PREREQUISITE
-

REFERENCES
1. Database Systems: A Practical Approach to Design, Implementation, and Management (6th edition), 2015, T. Connoly and C. Begg, ISBN 9780132943260 2. Database Systems: Design, Implementation, and Management (9th edition), 2011, C. Coronel, S. Morris, and P. Robb. 3. Oracle® 12c: SQL, 2010, J. Casteel. ISBN: 9781305251038 4. Fundamentals of Database Systems (7th edition), 2016, R. Elmasri and S. B. Navathe, ISBN-10: 0133970779 & ISBN-13: 9780133970777